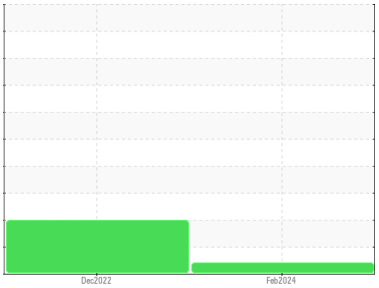
# OIL ANALYSIS REPORT

Sample Rating Trend




**VIS DEBRIS**

Area
## COMPRESSOR STATIONS/ZENA AREA [EODMID]
Machine Id
## NEMESIS (S/N 5629X2702)
Component
**Compressor**
Fluid
**TULCO LUBSOIL LPG WS 150 (1 GAL)**

## DIAGNOSIS

**Recommendation**

No corrective action is recommended at this time. The filter change at the time of sampling has been noted. Resample at the next service interval to monitor. We were unable to perform a particle count due to a high concentration of particles present in this sample. ( Customer Sample Comment: Unknown oil capacity )

**Wear**

All component wear rates are normal.

**Contamination**

Moderate concentration of visible dirt/debris present in the oil.

**Fluid Condition**

The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

| SAMPLE INFORMATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Sample Number | | Client Info | | **TO60002100** | TO60000031 | --- |
| Sample Date | | Client Info | | **05 Feb 2024** | 12 Dec 2022 | --- |
| Machine Age | hrs | Client Info | | **363** | 37861 | --- |
| Oil Age | hrs | Client Info | | **363** | 7680 | --- |
| Oil Changed | | Client Info | | **Oil Added** | Not Changd | --- |
| Sample Status | | | | **ABNORMAL** | ABNORMAL | --- |

| WEAR METALS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Iron | ppm | ASTM D5185m | >50 | **4** | 7 | --- |
| Chromium | ppm | ASTM D5185m | >10 | **<1** | 0 | --- |
| Nickel | ppm | ASTM D5185m | | **0** | <1 | --- |
| Titanium | ppm | ASTM D5185m | | **<1** | 0 | --- |
| Silver | ppm | ASTM D5185m | | **0** | 0 | --- |
| Aluminum | ppm | ASTM D5185m | >25 | **2** | <1 | --- |
| Lead | ppm | ASTM D5185m | >25 | **0** | <1 | --- |
| Copper | ppm | ASTM D5185m | >50 | **<1** | 0 | --- |
| Tin | ppm | ASTM D5185m | >15 | **0** | 2 | --- |
| Vanadium | ppm | ASTM D5185m | | **0** | 0 | --- |
| Cadmium | ppm | ASTM D5185m | | **0** | 0 | --- |

| ADDITIVES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Boron | ppm | ASTM D5185m | 0 | **0** | 0 | --- |
| Barium | ppm | ASTM D5185m | 0 | **8** | 0 | --- |
| Molybdenum | ppm | ASTM D5185m | 0 | **0** | 0 | --- |
| Manganese | ppm | ASTM D5185m | | **0** | 0 | --- |
| Magnesium | ppm | ASTM D5185m | 0 | **2** | <1 | --- |
| Calcium | ppm | ASTM D5185m | 0 | **9** | 0 | --- |
| Phosphorus | ppm | ASTM D5185m | 0 | **27** | 33 | --- |
| Zinc | ppm | ASTM D5185m | 0 | **0** | 2 | --- |
| Sulfur | ppm | ASTM D5185m | 0 | **29** | 814 | --- |

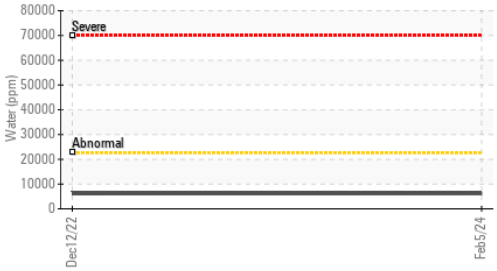
| CONTAMINANTS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Silicon | ppm | ASTM D5185m | >25 | **9** | <1 | --- |
| Sodium | ppm | ASTM D5185m | | **3** | 0 | --- |
| Potassium | ppm | ASTM D5185m | >20 | **2** | 1 | --- |
| Water | % | ASTM D6304 | >2.26 | **0.615** | 0.613 | --- |
| ppm Water | ppm | ASTM D6304 | >22600 | **6160** | 6130 | --- |

| FLUID CLEANLINESS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Particles >4µm | | ASTM D7647 | >10000 | **---** | ▲ 92245 | --- |
| Particles >6µm | | ASTM D7647 | >1300 | **---** | ▲ 32677 | --- |
| Particles >14µm | | ASTM D7647 | >320 | **---** | ▲ 987 | --- |
| Particles >21µm | | ASTM D7647 | >80 | **---** | ▲ 173 | --- |
| Particles >38µm | | ASTM D7647 | >20 | **---** | 2 | --- |
| Particles >71µm | | ASTM D7647 | >4 | **---** | 0 | --- |
| Oil Cleanliness | | ISO 4406 (c) | >20/17/15 | **---** | ▲ 24/22/17 | --- |

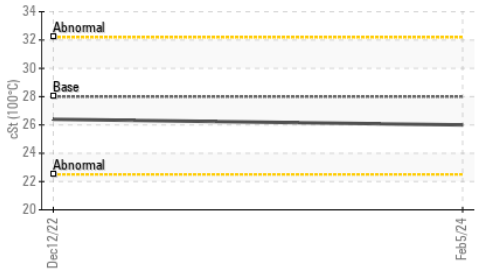
| FLUID DEGRADATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Acid Number (AN) | mg KOH/g | ASTM D8045 | | **0.09** | 0.33 | --- |

# OIL ANALYSIS REPORT

Water (KF)

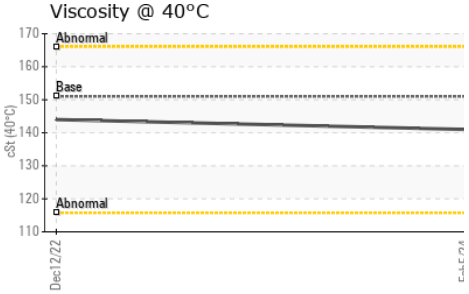



Viscosity @ 100°C



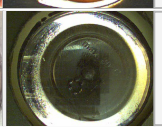

Viscosity @ 100°C


Viscosity @ 40°C



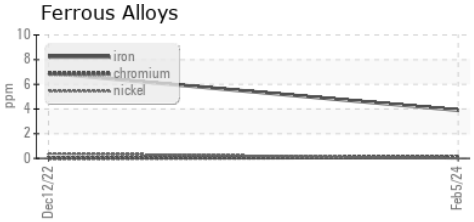

| VISUAL | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| White Metal | scalar | *Visual | NONE | **NONE** | NONE | --- |
| Yellow Metal | scalar | *Visual | NONE | **NONE** | NONE | --- |
| Precipitate | scalar | *Visual | NONE | **NONE** | NONE | --- |
| Silt | scalar | *Visual | NONE | **NONE** | NONE | --- |
| Debris | scalar | *Visual | NONE | ▲ **MODER** | LIGHT | --- |
| Sand/Dirt | scalar | *Visual | NONE | **NONE** | NONE | --- |
| Appearance | scalar | *Visual | NORML | **NORML** | NORML | --- |
| Odor | scalar | *Visual | NORML | **NORML** | NORML | --- |
| Emulsified Water | scalar | *Visual | >2.26 | **NEG** | NEG | --- |
| Free Water | scalar | *Visual | | **NEG** | NEG | --- |

| FLUID PROPERTIES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Visc @ 40°C | cSt | ASTM D445 | 151 | **141** | 144 | --- |
| Visc @ 100°C | cSt | ASTM D445 | 28 | **26.0** | 26.4 | --- |
| Viscosity Index (VI) | Scale | ASTM D2270 | 224 | **220** | 220 | --- |

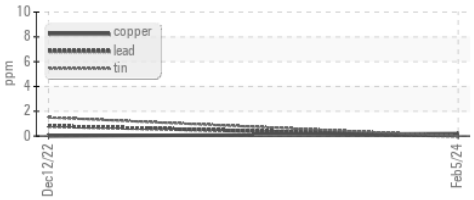
| SAMPLE IMAGES | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|
| Color | | |  |  | *no image* |
| Bottom | | |  |  | *no image* |

## GRAPHS

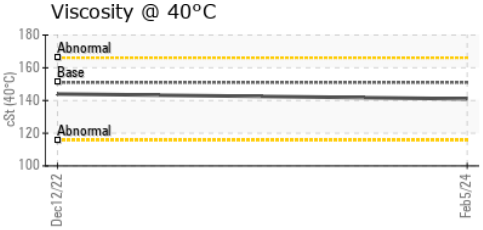
Ferrous Alloys



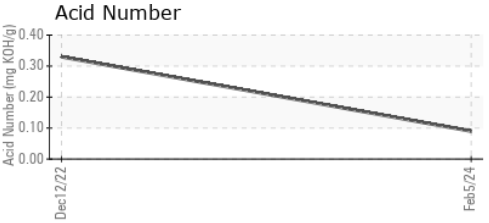

Non-ferrous Metals




Viscosity @ 40°C




Acid Number




Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513
**Sample No.** : TO60002100
**Lab Number** : 06100913
**Unique Number** : 10899143
**Test Package** : IND 2 ( Additional Tests: KF, KV100, PrtCount, VI )

**Received** : 26 Feb 2024
**Tested** : 28 Feb 2024
**Diagnosed** : 28 Feb 2024 - Don Baldridge

*To discuss this sample report, contact Customer Service at 1-800-237-1369.*
** - Denotes test methods that are outside of the ISO 17025 scope of accreditation.*
*Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)*

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